



Mr. Spear's Report to the Local Government Board on the Fatal Prevalence of Scarlatina in the First (Central) Division of the Neath Rural Sanitary District.

GEORGE BUCHANAN,
Medical Department,
November 3rd, 1890.

The compulsory notification of the principal infectious diseases has been in operation in the Rural District of Neath since January 1st of the present year, so that an approximately complete list of the cases of scarlatina that have occurred since that date is available. The numbers recorded in the various months are as follows:—In January, 5; in February, 2; in March, 1; in April, 9; in May, 35; in June, 25; in July, 59; in August, 24; and in the first three weeks of September, 21. The total number reported during this period was 181, and of these 31 were fatal.

The first division of the Neath Rural District has a population now estimated at 13,300, and contains six separate hamlets. Coedfranc, with a population estimated at 4,400, is the most important of these, and the one that suffered most severely from the scarlatina prevalence. Of the total number of 181 cases reported, 81 were from Coedfranc, and of the deaths, 21 of the 31 recorded occurred in that locality. In other words, the fatality of the disease at Coedfranc exceeded 25 per cent. of the reported attacks; while in the remainder of the district the corresponding proportion was the more customary 10 per cent. The causes of the large prevalence of the disease and of its excessive fatality at Coedfranc, were two special points in the inquiry.

At Coedfranc the outbreak in the spring and summer of the present year appears to have been the climax of a long continued prevalence. In July 1889 the Medical Officer of Health reported "scarlatina is still hovering "about;" in August, "there have been a few cases of scarlatina, but the "disease has not broken out into any activity;" in October, "scarlatina is "a little more prevalent;" in December, seven cases were reported. In all, during 1889, five deaths from the disease were registered at Coedfranc.

The compulsory notification of infectious disease has not been accompanied by any efficient action for preventing the spread of infection in the district. In effect, the notification certificates received were simply filed. The Medical Officer of Health has visited houses from which fatal attacks were reported, but not upon receiving information of infectious sickness. On occasions chloride of lime has been given by the Sanitary Authority to infected households, but the use of disinfectants has not been systematically, or as a rule, enforced. For example, in October 1889, two children suffered from scarlatina in a house at Springfield, Coedfranc, and one died. The Medical Officer of Health visited the house, but no disinfectants were used, nor was any lime-washing or re-papering, or other special cleansing of the rooms, carried out. The disease again made its appearance in the same family in January of the present year, and another child died, and again no measures of disinfection were taken.

The Medical Officer of Health has frequently advised the Authority to provide an isolation hospital, but his advice has not been followed. He has frequently reported that isolation was impossible in the cottages of the poor.

One of the schools at Coedfranc was closed during the scarlatina prevalence in the summer of 1889, but nothing of the sort was attempted at Coedfranc during the far more serious prevalence of 1890. There is little doubt that school attendance played a considerable part in the dissemination of infection. The mistress of the Abbey Infant School gave me to understand, for example, that on four different occasions she found children attending school whose skin was in a state of active desquamation after scarlatina. As a matter of fact, the school suffered from the disease to a greater degree than other schools. Amongst the 150 children, or thereabouts, who habitually attend

the school 34 suffered from scarlatina between May and September. At one time, the mistress informs me, 10 children were absent from this cause from one class alone. Of the 34 sufferers, 6 died.*

From such clinical histories as I could obtain there did not appear to be in the type of the disease any noteworthy departure from common experience. In a certain number of the fatal cases death occurred early, but in 30 per cent. it was ascribed to nephritis following the acute stage. The fatality was almost as great during the summer as in the spring months; 18 deaths occurred during June, July, and August, and half of these during the last-named month. The two sexes suffered from fatal attacks almost equally. One infant, under one year, died; the remaining deaths were amongst children between two and ten years of age.

I have already noted the fact that the disease was more fatal at Coedfranc than in the other hamlets of the district, and I find that an observation of similar purport has been recorded by the Medical Officer of Health respecting earlier experiences in his district. In his report for the year 1889, he says:—“The population of the hamlets (including Coedfranc) on the west side of the River Neath amounts to 9,017, while that of Llantwit amounts to 4,138, or not quite half; whereas the proportion of deaths is as three on the west side to one on the east side of the river, and those from zymotic diseases were 21 on the west side and two on the east side.” His tables for that year further show that of the 21 deaths from zymotic disease, 13 occurred at Coedfranc, five of these being from enteric fever. Commenting upon the above quoted observation, he says:—“It would appear that this great disproportion is owing to the fact that a thorough system of drainage has been carried out on the east side, while nothing of the kind has been effected on the west.” The subject matter of my inquiry demanded, it was evident, some particular attention to the sanitary condition of Coedfranc.

Sanitary Circumstances.

Coedfranc is a populous village, or rather a series of connected villages, extending for a mile or more along the highway between Neath and Swansea. It is built chiefly on the slope of a hill so that the natural facilities for main drainage are considerable, although hitherto no public sewers have been provided. The houses near the highway are drained, very often by roughly constructed channels which pass frequently beneath the houses, to the roadside gutter, where the sewage causes, at various points, considerable nuisance; those in the side streets, or further removed, not possessing even such facilities as the roadside gutter affords, are even more unsatisfactorily circumstanced. Sewage accumulates in pools or ditches about the houses, as at “The Abbey;” or, as is chiefly the case with the newer property, is discharged into leaking and unventilated cesspools or “dumb-wells.” One collection of houses near the railway station at Dynevyr had I found been drained after a certain fashion; the drain in places was partly above the ground level, it was provided with catch-pits in its course, it was unventilated, and it discharged on to the railway embankment in such a way as to occasion nuisance to the passers by.

Excrement disposal is generally by old-fashioned privy-pits. These often contain an accumulation of twelve months or more; are dilapidated and foul. A very few of the newer houses have been provided with small box-closets, but no public provision is made for the emptying, and they too, accordingly, are allowed to overflow, and to become a nuisance. The removal of ashes and house-refuse is effected by the Authority under a contract.

The water supply of some five-sixths of Coedfranc is obtained from the mains of the Neath Water Company, the source being the Darran Springs, a different one from that which supplies the town of Neath. The company have apparently little means of storage, and the yield of the spring is reported to be insufficient for the requirements of the population. In dry summers there is evidently considerable scarcity of water; even in ordinary seasons

* The summer school holidays lasted from about the end of July to about the end of August—at the Abbey School from July 25th to August 25th—and it may be remarked that during August the number of cases reported notably diminished.



the inhabitants complain that the service is often discontinued. The insufficiency of the supply has been the subject of remonstrance by the Authority to the water company, and it has doubtless stood in the way of a much-needed extension of a general service. Of the remaining sixth, many are greatly in need of wholesome water. The inhabitants of certain cottages at the Abbey told me that they had to fetch water from a spring nearly half-a-mile away. At Burrows Road, where a serious outbreak of enteric fever occurred last year, the people have to resort to a surface spring obviously much liable to chance pollution. Some 100 houses in various parts are supplied from surface wells often sunk in close proximity to defective drains and the like. It is stated that the Company's water, in times of scarcity, becomes discoloured and unpleasant. On the whole, the water supply of the village must be regarded as exceedingly defective and unsatisfactory.

The houses of Coedfranc are, in many instances, rendered unwholesome by the defective drainage arrangements to which I have referred, and by the unpaved and sewage-sodden state of their surroundings; and, apart from this, there are a certain number which are unfit for habitation, from inherent defects of structure, from their dampness, their dilapidation, and the want of proper means of ventilation. Overcrowding too is occasionally met with. In a place known as "Under the leat," for example, I found a woman and four children were living and sleeping in one apartment of little more capacity than 1,000 cubic feet. There was a loft above, but the water came in in such a way that it could not be used. The room actually occupied was excessively damp, with a mud floor sunk beneath the ground level, and possessed of no through ventilation. A neighbouring family I found occupying, both for living and sleeping purposes, a similar habitation. It was said that, in wet weather, sewage from neighbouring premises, and storm water had welled up through the dilapidated floor and formed a foul pool beneath the beds. But, for domestic use, the people here have no convenient supply of water, and obviously a quite insufficient amount is used for purposes of household cleanliness. In each of these habitations a child had recently died from scarlatina.

I visited the schools of the district, and found certain improvements needed in their sanitary condition. Bad cesspit privies are in use in connexion with all of them. The Skewen (Coedfranc) National Infant School is at times overcrowded, and, more especially the class-room, is inadequately ventilated. As regards ventilation, more care generally is required to maintain air inlets and outlets free from the obstruction of accumulated dust.

The dairies and milkshops of the district are said all to be registered, but judging from what I saw of one at Coedfranc, it is clear that more effective regulation is required. This cowshed was dirty, dilapidated, and unventilated, with drainage and pig-stye nuisances about it, and the milk was strained and otherwise dealt with in the living room (and this not a clean one) of the family. I found no evidence of any association between the milk supply of the district and the scarlatina prevalence.

Dr. Russell, the Medical Officer of Health of the central district, has just resigned. The Inspector of Nuisances requires the supervision, direction, and assistance of a skilled officer. Hitherto this has not been given, there having been little official communication between him and the Medical Officer of Health.

I conferred with the Sanitary Authority on September 23rd, at a special meeting called for the purpose. Resolutions were then adopted as follows:—

1. "That the Surveyor report upon the drainage of Skewen (Coedfranc) and Neath Abbey."
2. "That the Surveyor report as to houses unfit for habitation."
3. "That the Clerk report as to the position the Authority now occupy with the Neath Water Company—as to what has already taken place, and as to what powers the Authority possess."

I described also the means that should be adopted by the Authority for controlling spreading disease, and for utilising the information received under their system of notification of infectious cases. The fact that they are now practically without the services of a Medical Officer of Health (Dr. Russell having, as I have said, resigned) was felt naturally to be a difficulty in the way of establishing immediately such an organization as is here wanted.

The appointment of a new Medical Officer of Health will be immediately proceeded with.

Probably the provision for isolating the infected sick of Coedfranc might advantageously be made by a hospital that could be used in conjunction with the Sanitary Authority of the Neath Urban District.

JOHN SPEAR.

October 11th, 1890.